

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (canceled)

6. (New) A contact-type micro piezoresistive shear-stress sensor comprising:

- a) a silicon substrate;
- b) a sensing diaphragm formed into etched cavities at preset locations on the silicon substrate and having a substantially square shape;
- c) a flange framed by means of etching technology at the center of said sensing diaphragm;
- d) two X-shaped piezoresistors implanted at the center of adjacent longitudinal sides of said sensing diaphragm between the respective side and the center of said sensing diaphragm; and
- e) a protective membrane of semi-conductor protective material formed on said sensing diaphragm.

7. (New) The contact-type micro piezoresistive sheer-stress

sensor as defined in claim 6, wherein said flange is formed of the same material as said protective membrane.

8. (New) The contact-type micro piezoresistive sheer-stress sensor as defined in claim 7, wherein said protective membrane and said flange are formed of SiO_2 or Si_3N_4 .
9. (New) The contact-type micro piezoresistive sheer-stress sensor as defined in claim 6, wherein said silicon substrate is formed of high doping semi-conductor piezoresistive material.
10. (New) The contact-type micro piezoresistive sheer-stress sensor as defined in claim 8, wherein the formation of the flange comprises immersion in an etching agent at a concentration of $\text{HF:H}_2\text{O}$ of 1:10, and preparation of the semi-conductor is according to the process of pattern etching for size and shape.